

WHAT IS CLAIMED IS:

1. An image pickup apparatus comprising:  
an image pickup area including a plurality of  
photoelectric conversion areas;  
5 a plurality of converging lenses for converging  
light on a plurality of photoelectric conversion areas;  
and  
a light shielding area having a plurality of  
opening areas through which light is incident upon the  
10 plurality of photoelectric conversion areas,  
wherein positions of said converging lens and said  
opening area are shifted inward than a corresponding  
photoelectric conversion area.
- 15 2. An image pickup apparatus according to claim  
1, wherein a shift amount between the opening area and  
the photoelectric conversion area becomes larger at a  
position nearer to a peripheral area of said image  
pickup area.
- 20 3. An image pickup apparatus according to claim  
1, wherein a center of said converging lens is  
approximately coincident with a center of said opening  
area.
- 25 4. An image pickup apparatus according to claim  
1, wherein a position of said converging lens is

shifted inward than a corresponding opening area.

5. An image pickup apparatus according to claim 1, further comprising:

5 an A/D converter for converting a signal from said image pickup area into a digital signal;  
a signal processing unit for executing a color process for the digital signal supplied from said A/D converter; and

10 a memory unit for storing a signal from said signal processing unit.

6. An image pickup apparatus according to claim 1, wherein said image pickup area includes a plurality 15 of image pickup areas.

7. An image pickup apparatus according to claim 6, wherein a same color filter is disposed for each of the plurality of image pickup areas.

20 8. An image pickup apparatus according to claim 7, further comprising:

a plurality of lenses for focussing an object image on each of the plurality of image pickup areas;  
25 an A/D converter for converting a signal from each of the plurality of image pickup areas into a digital signal;

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a signal processing unit for executing a color process for the digital signal supplied from said A/D converter; and  
5 a memory unit for storing a signal from said signal processing unit.

9. An image pickup apparatus comprising:  
an image pickup area including a plurality of photoelectric conversion areas; and  
10 a plurality of converging lenses for converging light on a plurality of photoelectric conversion areas, said converging lenses being formed on a layer evened by a CMP process;  
wherein positions of said converging lens are  
15 shifted inward than a corresponding photoelectric conversion area.

10. An image pickup apparatus according to claim 9, further comprising:  
20 an A/D converter for converting a signal from said image pickup area into a digital signal;  
a signal processing unit for executing a color process for the digital signal supplied from said A/D converter; and  
25 a memory unit for storing a signal from said signal processing unit.

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11. An image pickup apparatus comprising:  
an image pickup area including a plurality of  
photoelectric conversion areas;  
a plurality of converging lenses for converging  
5 light on a plurality of photoelectric conversion areas;  
a first light shielding area having a plurality of  
opening areas through which light is incident upon the  
plurality of photoelectric conversion areas; and  
a second light shielding area having a plurality  
10 of opening areas through which light is incident upon  
the plurality of photoelectric conversion areas, said  
second light shielding area being formed above said  
first light shielding area,  
wherein in a peripheral area of said image pickup  
15 area, positions of said converging lens and the opening  
area of said second light shielding area are shifted  
inward than a corresponding photoelectric conversion  
area.

20 12. An image pickup apparatus according to claim  
11, wherein a color filter is disposed between said  
first and second light shielding areas.

25 13. An image pickup apparatus according to claim  
11, further comprising:  
an A/D converter for converting a signal from said  
image pickup area into a digital signal;

a signal processing unit for executing a color process for the digital signal supplied from said A/D converter; and

5       a memory unit for storing a signal from said signal processing unit.

14. An image pickup apparatus comprising:

an image pickup area including a plurality of photoelectric conversion areas; and

10       a plurality of converging lenses for converging light on a plurality of photoelectric conversion areas, wherein a position of said converging lens is shifted inward than a corresponding photoelectric conversion area, and the plurality of photoelectric conversion areas in said image pickup area are disposed 15       in a curved shape.

15. An image pickup apparatus according to claim 14, further comprising:

20       an A/D converter for converting a signal from said image pickup area into a digital signal;

      a signal processing unit for executing a color process for the digital signal supplied from said A/D converter; and

25       a memory unit for storing a signal from said signal processing unit.

16. An image pickup apparatus comprising:  
an image pickup area including a plurality of  
photoelectric conversion areas; and  
a plurality of converging lenses for converging  
5 light on a plurality of photoelectric conversion areas;  
wherein in a peripheral area of said image pickup  
area, a position of said converging lens is shifted  
inward than a corresponding photoelectric conversion  
area, and a pitch between a plurality of converging  
10 lenses in a first area is different from a pitch  
between a plurality of converging lenses in a second  
area.

17. An image pickup apparatus according to claim  
15 16, further comprising:  
an A/D converter for converting a signal from said  
image pickup area into a digital signal;  
a signal processing unit for executing a color  
process for the digital signal supplied from said A/D  
20 converter; and  
a memory unit for storing a signal from said  
signal processing unit.

18. An image pickup apparatus comprising:  
25 a plurality of image pickup areas each including a  
plurality of photoelectric conversion areas; and  
a plurality of converging lenses for converging

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light on a plurality of photoelectric conversion areas;  
wherein in a peripheral area of said image pickup  
area, a position of said converging lens is shifted  
inward than a corresponding photoelectric conversion  
5 area, and in at least two image pickup areas, shift  
amounts between said converging lens and the  
photoelectric conversion area are different.

19. An image pickup apparatus according to claim  
10 18, further comprising:  
an A/D converter for converting a signal from each  
image pickup area into a digital signal;  
a signal processing unit for executing a color  
process for the digital signal supplied from said A/D  
15 converter; and  
a memory unit for storing a signal from said  
signal processing unit.

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